December 28, 2000

OFFICE OF THE HEARING EXAMINER
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REPORT AND DECISION ON APPEAL OF CONDITIONAL USE PERMIT

SUBJECT: Department of Development and Environmental Services File No. **L99CU313**

LAKE WASHINGTON SCHOOL DISTRICT #414
Conditional Use Permit Appeal

Location: Redmond-Fall City Road and 228th Avenue, adjacent to the Alcott Elementary School

Applicant: Lake Washington School District #414, *represented by*
James S. Fitzgerald, Attorney At Law
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Telephone: (425) 822-9281, ext. 328

Appellants: Citizens Advocating Responsible School Sites, *represented by*

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King County: Department of Development and Environmental Services, Land Use Services Section, Current Planning Section, *represented by*
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SUMMARY OF DECISION:

Department's Preliminary Recommendation:	Deny the appeal
Department's Final Recommendation:	Deny the appeal
Examiner's Decision:	Deny the appeal

EXAMINER PROCEEDINGS:

Hearing Opened: December 6, 2000
Hearing Closed: December 18, 2000

Participants at the public hearing and the exhibits offered and entered are listed in the attached minutes. A verbatim recording of the hearing is available in the office of the King County Hearing Examiner.

ISSUES/TOPICS ADDRESSED:

- Aquifer protection
- Wind throw hazards

SUMMARY:

The conditional use appeal is denied, but the permit conditions have been amended to further mitigate risks to the community health and safety.

FINDINGS, CONCLUSIONS & DECISION: Having reviewed the record in this matter, the Examiner now makes and enters the following:

FINDINGS:

1. On October 5, 1999 the Lake Washington School District filed a conditional use permit application with the King County Department of Development and Environmental Services to construct a 118,500 square foot junior high school plus associated ball fields and parking lots on a 21.85 acre parcel located in the RA-5 zone near the intersection of Redmond-Fall City Road and 228th Avenue Northeast. The proposed site is next to the existing Louisa May Alcott Elementary School, located directly adjacent to the northwest intersection corner. The property is mostly wooded and is bordered on the northern and western sides by single-family suburban housing. The School District has granted an easement to the Union Hill Water Association for the location of a production well (designated UH-2) at the site's northwest corner. The well has been drilled but is not presently in use.

2. The School District conducted its own environmental review under authority of SEPA, which resulted in the issuance of a Mitigated Determination of Non-significance on July 23, 1999. Among the mitigating conditions imposed are a variety of traffic improvements, expanded buffers on the northern and western boundaries of the site, retention of snags for wildlife use, and treatment and infiltration of stormwater. Although outside the Urban Growth Boundary, the combined school sites have been approved for sewer service.

3. A conditional use permit was issued by King County DDES on July 25, 2000 after extensive administrative review. The CUP was issued subject to 14 conditions of approval, including

requirements for landscaping, site access, frontage and traffic improvements, construction time limits, buffer management, noise attenuation, standards for installation of groundwater heat exchange wells, lighting, and archaeological review.

4. The conditional use permit decision was appealed by the Citizens Advocating Responsible School Sites, a neighborhood group. The CARSS appeal raised issues with respect to the traffic impacts of the school proposal, whether vegetation clearing would result in a windfall hazard to off-site residential properties, whether the project's proposed deep well heat pump system would adversely impact the aquifer into which the Union Hill Water Association No. 2 well is drilled, and whether the project design adequately mitigates for noise impacts of school operation. Prior to the hearing, the Appellant withdrew the traffic and noise impact issues.

5. The School District proposes to install a deep well heat pump system to provide heating and cooling to the school buildings. As currently conceived, this proposal entails drilling 260 4 ½-inch diameter bore holes to a depth of 327 feet each. The bore holes are proposed to be located within the northwest quadrant of the property beneath a new football field, within a rectangular grid at a spacing of approximately 15 feet between holes. The northwest corner of the deep well heat pump grid will lie approximately 135 feet from Union Hill Well No. 2.

6. Although the exact details have yet to be determined, the current expectation of the School District's engineers is that the bore holes will be drilled using a mud rotary bit procedure that features a bentonite grout slurry that is pumped down the bore shaft where it discharges through holes in the bit. This slurry lubricates and cools the bit, provides a medium to carry out the drilled soil, and contains polymers that will fill the soil interstices and seal off the bore hole. After the drilling is completed and the bit removed, a polyethylene pipe will be installed in the bore hole. This outer casing will enclose a 1-inch loop pipe in which water treated with an antifreeze agent will be circulated.

7. The primary aquifer into which the Union Hill Well No. 2 is drilled lies within a stratum that begins at a depth of approximately 133 feet and extends to a depth of about 213 feet below the surface. The well is screened between the depths of 135 and 165 feet. The surface and upper soil layers are composed of a coarse sand and gravel through which water infiltrates rapidly. The primary aquifer is at least partially protected by a clay lens aquitard that in places may be as thick as 14 feet. There is not enough data, however, to determine whether the aquitard has thin areas or discontinuities where it passes beneath the school site.

8. Although the Union Hill Water Association is not a party to this appeal, the bulk of the Appellant's testimony on potential deep well impacts on the primary aquifer was provided by Richard Harbert of RH2 Engineering, Inc., the Water Association's consultant. Mr. Harbert is concerned that, due to the proximity of the School District's proposed well field to UH-2 and the fact that the District's bore holes will pierce the primary aquifer, there will be adverse impacts from both the drilling process and the later operation of the heat pump system on water quality within the primary aquifer. But in the absence of detailed plans from the School District as to how the deep well heat pump system is to be implemented, Mr. Harbert has been largely forced to speculate as to what these adverse impacts might be. Mr. Harbert was particularly disadvantaged by the fact that he did not know the drilling procedure proposed to be used and assumed it would be a cable tool method rather than mud rotary bit drilling.

9. Most of Mr. Harbert's concerns were focused upon the drilling process. There can be no doubt that drilling 260 holes through the primary aquifer will result in a temporary increase in groundwater turbidity. However, in the absence of soluble contaminants, turbidity tends to be a short-term, localized phenomenon. It is reasonable to suppose that after drilling has been completed, disturbed particles will settle out in a matter of days. Moreover, there is little likelihood that the zone of turbidity would extend further than a few feet from the bore holes.

10. Chemical contamination risks from drilling activities would seem to pose a more serious long-term threat to groundwater quality. These risks are of two types. First, the risk of a fuel spillage on the surface associated with the operation of the drilling equipment, and second, from the possibility of contaminants within the drilling grout itself leaking into the groundwater. An important unknown in this regard is the potential toxicity of the polymer sealant within the bentonite slurry. Overall, these risks appear to be predictable and manageable if analyzed beforehand and appropriate procedures are implemented.

11. After the heat pump wells are drilled and the loop piping installed, the primary operational risks focus on the possibility of pipe failure resulting in leakage of the circulating water into the aquifer. The issue here is whether any of the additives to the circulatory system would pose a contamination risk. The potential for loop pipe leakage was also identified by Ken Johnson, Groundwater Program Lead for the County Department of Natural Resources, as the scenario most likely to cause contamination. In an e-mail to DDES dated July 19, 2000, Mr. Johnson identified this issue as one to be reviewed by DDES during the mechanical permitting process by means of system pressure testing.

12. In discussing the level of risk to the Union Hill Well No. 2 and its production aquifer, some reference needs to be made to the Well Head Protection Area map for UH-2 and its two companion wells further north. This mapping shows the wells' capture zones extending due north of the production wells, up-gradient toward the Novelty Hill area. This one-dimensional, elongated pattern is based on the steep groundwater gradient in the area and a high factor of transmissivity within the aquifer. The model posits the existence of a major recharge zone located somewhat more than two miles north of UH-2. At this location the aquitard protecting the primary aquifer is believed to be non-existent, thus allowing massive recharge to occur. Notwithstanding the north-trending Well Head Protection Area, UH-2 is so close to the school's proposed well field that a conservative approach is required which assumes that the entire school site is within the Well Head Protection Area for UH-2. Moreover, once UH-2 becomes operational, its pumping activity will create an immediate cone of depression directly below the well that will alter locally the hydraulic gradients. This means that contaminants entering the groundwater system within the school's well field would migrate locally toward the north even though the overall gradient is to the south.

13. In evaluating the risks associated with implementation of a deep well heat pump system on the School District site, we are impressed by the fact that there are some exceptional factors in operation here. First and foremost is the fact that 260 deep wells are proposed to be punched through a production aquifer within a few hundred feet of a major domestic well. Both the proximity of these operations to the production well and the heavy concentration of drilling activity within a small area are matters dictating a need for extreme caution and diligence.

Second, because of the historic existence of cheap electricity in the northwest, these kinds of systems are relatively new in this part of the world. This element of novelty is underscored by the fact that none of the engineers designing the system for the School District or analyzing it for the Union Hill Water Association have had any direct experience with installing deep well heat pump systems under any conditions, let alone installing one through an aquifer near a producing well. Finally, the novelty of the process is reflected by the fact that neither the State Department of Ecology nor King County has enacted review standards or procedures that are directly applicable to this type of proposal.

14. In addition to the broad conditional use standard articulated at KCC 21A.44.040.E regarding activities that conflict with the health and safety of the community, the groundwater policy stated at Comprehensive Plan Policy Nos. NE-332 through -336 supply additional guidance to the County review process. Pursuant to Policy No. NE-332, the school site has been mapped as an area highly susceptible to groundwater contamination and therefore designated as a Critical Aquifer Recharge Area. In addition, Policy No. NE-335 provides that in making land use decisions "the depletion or degradation of aquifers needed for potable water supplies should be avoided or mitigated". On the State level, the Department of Ecology at WAC 173-200-030 has adopted a policy to protect groundwater quality and avoid the introduction of contaminants therein, with the proviso that when the use of contaminants is proposed, they will be provided with all known available and reasonable methods of prevention, control and treatment prior to entering the groundwater. In addition, Ecology has promulgated construction and maintenance standards for wells. Although the DOE requirements are directed at water wells, to the extent that well drilling is a generic process they are also applicable to heat pump borings. Finally, Mr. Johnson of King County DNR has identified relevant trade association guidelines for vertical bore holes for closed loop heat pump systems, and upon his recommendation, compliance with these standards has been included as a requirement of the conditional use permit issued by DDES.

15. In addition to the conditional use permit conditions imposed by DDES, the engineers for both Union Hill Water Association and the School District have weighed in with their own ideas as to the kinds of requirements that would be appropriate for regulating the drilling of the deep well heat pump field and its subsequent operation. Not surprisingly, Mr. Harbert favors restrictive and rather detailed limitations. These include moving the heat pump well field further south to where the baseball diamonds are proposed to be sited, relocation of the northern infiltration pond, evaluation of drilling coagulants and other chemicals for toxicity, preparation of a contingency remediation plan to deal with potential contaminant spills, baseline water quality sampling, and Department of Ecology review of the final design plans for AKART compliance.

16. On the School District's behalf, AGRA Earth & Environmental, Inc., provided within a July 22, 1999 memorandum its analysis of the potential water quality impacts from site development on the source aquifer for UH-2. With respect to deep well heat pump development, AGRA concluded that the "critical issues would be the use of inert drilling and grouting materials, the sealing method, and the use of only clean water in the closed loop system in the bore holes". Anticipating that a single test hole boring should entail no unacceptable risk, AGRA made the following further recommendations for development of the complete heat exchange well field:

"Further analysis of the effects of a full system would be prudent if thermal testing results indicate the system can be constructed and run efficiently. Such analysis would be performed to determine what impacts (if any) a full operating earth-coupled heat pump system would have on the aquifers and the environment."

17. Our view, based on the record as a whole, is that while imposition of detailed technical requirements through the conditional use permit process would be an inappropriate exercise in micro-management, the novelty of the issues and the lack of established procedures for resolving them warrants imposing a review process that assures that the essential questions are analyzed and the legitimate interests of affected parties are considered. We do not believe that a major redesign of the project to relocate the entire well field further south is justified in view of its obvious cost to the Applicant and the loss of efficiency resulting from moving the well field away from the buildings it serves. We also agree with the School District that the issues associated with the location of the northern infiltration pond are essentially unrelated to the heat pump system and therefore beyond the scope of this appeal. While we would not disagree with the Water Association that baseline water quality sampling may be a desirable control for the measurement of future impacts, as the operator of Well No. 2 it makes sense for the Association itself to do such sampling. We agree with UHWA, however, that a more detailed program for review and comment on the system plans needs to be implemented to assure that all risks have been identified and mitigated consistent with AKART. The conditional use permit conditions have been expanded and elaborated to assure that this occurs.

18. The second issue raised by the CARSS appeal concerns the increased risk for wind throw hazard along the site's northern and western property lines resulting from removal of trees within the center of the site. Basically, there is no essential disagreement as to the existence of this problem. DDES Site Development Specialist Jon Pederson within a February 25, 2000 memorandum identified the following causes for the wind throw hazard risk:

"First, a substantial area to the south will be cleared for the school site. This will leave a relatively narrow strip of trees, that previously existed in a tightly knit forested environment, suddenly exposed to natural elements, particularly, new wind forces. Some of these trees may not have root systems properly developed to initially withstand this stress. Secondly, buffer trees that are already in a diseased or declining condition are particularly susceptible to sudden wind exposure, especially if root disease is present, due to the lack of anchoring strength of the root system….Thirdly, prevailing winds, during fall and winter storms, generally originate from the south and southwest. This leaves the proposed buffer directly exposed to these storm winds, without the protection benefit previously provided by the forested area to the south."

Mr. Pederson's memo also identifies similar forces at work with respect to the western buffer.

19. Based on Mr. Pederson's analysis, the DDES conditional use permit contains a condition that requires, prior to grading permit issuance, review and approval by DDES of a buffer management plan. Since everyone agrees that a buffer management plan is an appropriate mechanism for mitigating the wind throw problem, the only question left to decide is whether the condition needs to specify in greater detail the elements of the buffer management plan and provide an

opportunity for its review by affected off-site neighbors. At the public hearing the School District agreed to circulate the draft management plan to off-site neighbors for comment, which action obviates the need for a laundry list of plan elements. If a critical element has been left out of the buffer management plan, the neighbors will have an opportunity to point out such omission within their comment letters.

CONCLUSIONS:

1. The risks to the primary aquifer serving the Union Hill Water Association Well No. 2 from deep well heat pump development and to surrounding residences from wind throw are serious hazards that, if not properly mitigated, would conflict with the health and safety of the community. The record demonstrates, however, that these hazards can be mitigated, and the conditions attached to this approval have been modified to provide greater clarity to the mitigation process.

2. The Appellant has not met its burden of proof to demonstrate that the School District proposal, as mitigated, cannot meet the conditional use permit standards set forth at KCC 21A.44.040.

DECISION:

The appeal is DENIED.

The conditional use permit is GRANTED, subject to the following conditions:

1. An application for a building permit shall be submitted to King County DDES and issued within five years of the transmittal date of this report. Otherwise, this action shall become null and void.

2. Development shall be in conformance with the revised site plan, Exhibit D-7 (Attachment No. 1 of Hearing Examiner Exhibit No. 2), except as modified below.

3. The development of this project is subject to all rules, regulations, policies and codes that are not specifically modified by this approval.

4. Prior to issuance of the building permit, a revised landscape plan shall be submitted to DDES, to reflect the required 20 feet type III landscaping along the entire SR 202 frontage together with a type I (full screen/visual barrier) landscaping along the north and the west property line within the proposed buffer. The landscape plan shall also include the Wildlife Habitat mitigation required under SEPA for the King County ecologist review and approval.

5. At the time of the building permit review, the District shall comply with the following traffic engineer's conditions:

    a. The School District shall dedicate the 30-foot easement along both school frontages on 228th Avenue Northeast to King County prior to the issuance of the building permit.

b. Prior to the building permit issuance the School District shall obtain a WSDOT access permit for the emergency access from SR 202 and submit a copy to King County DDES.

c. The School District shall construct the 228th Avenue Northeast frontage improvements, to include curb, gutter, sidewalk, and additional roadway widening with the face of curb located 17 feet from the centerline of 228th Avenue Northeast. These frontage improvements shall be designed per the King County Road Standards. The exact design details of the walkway and bicycle lane in back of the curb line will be resolved during the building permit process. The additional pavement widening along 228th Avenue Northeast shall be designed per Section 4.01 of the King County Road Standards.

d. The two proposed driveways for the junior high school shall meet all design criteria and sight distance criteria per Sections 2 and 3 of the King County Road Standards. Special attention shall be paid to the northern driveway since school buses will be utilizing this driveway. The design shall reflect the wheel path of a "bus" (AASHTO) design vehicle.

e. The Lake Washington School District shall not hold concurrent special events at both Alcott Elementary and the new junior high school on the same day.

f. If the funding for widening SR 202 from the Redmond city limits to a point east of Sahalee Way Northeast is withdrawn before the County approves the building permit, then the School District shall contribute a proportionate share of the WSDOT improvements. The School District shall enter into a legal agreement with WSDOT to pay a fair share into the SR 202 widening project. This payment shall be made to WSDOT prior to building permit approval.

g. The following improvements shall be constructed and fully operational before any type of occupancy permit is issued by DDES.

- Signalization and illumination of the SR 202/228th Avenue Northeast intersection
- 250-foot storage-eastbound to northbound left turn lane on SR 202
- 500-foot storage-westbound to northbound right turn lane on SR 202
- 180-foot storage-southbound to eastbound left turn lane on 228th Avenue Northeast

h. Construction traffic related to the grading permit hauling shall be limited to the hours of 9:00 a.m. to 3:00 p.m. The District shall contact the WSDOT and KCDOT for approval of any traffic control plan along SR 202 and 228th Avenue Northeast related to construction traffic.

6. This proposal is subject to a detailed drainage review at the time of building permit review to assure compliance with the Surface Water Design Manual standards.

7. This proposal shall comply with the mitigations (traffic, site buffers, wildlife habitat, construction noise and dust, and surface water runoff) identified in the SEPA section of this report.

8. Based on KCC 12.88.020 and 030, construction work that does not meet the night time sound level of 39 dB(A) shall only occur during day time hours of 7:00 a.m. to 10:00 p.m. on weekdays, and 9:00 a.m. to 10:00 p.m. on weekends or any legal holiday.

9. Prior to the issuance of the clearing/grading permit, the District shall submit a buffer management plan for review and approval by the King County Site Development Specialist. The draft plan shall also be circulated prior to permit issuance to the owners of the residences located immediately adjacent to the west and north of the subject site for their review and comment. Written comments thereon shall be submitted by the neighboring owners to the District and King County within 30 days of the mailing of the draft plan to said owners.

10. A the time of building permit submittal, the site plan shall be revised to reflect the sound wall (noise barrier) along the western edge of the football field. The exact design of the wall shall be determined by the District's consultant and submitted to the King County Department of Public Health for review and approval.

11. The District shall comply with the conditions of the Certificate of Water Availability issued by Union Hill Water Association and the recommendations of the "Water Supply Evaluation" report prepared by AGRA Earth & Environmental, Inc., dated July 22, 1999 to avoid any impact on the groundwater. As stated in the AGRA report, compliance entails preparation, prior to issuance of permits for heat pump system construction, of an analysis to determine the impacts that a fully operating earth-coupled heat pump system would have on the aquifers and the environment. This analysis shall include identification of any contaminants used in the drilling and operational processes, and their potential risks to the aquifer.

12. The groundwater heat exchange wells should be designed and installed in accordance with the Washington State Department of Ecology standards and the National GroundWater Association's (1997) Guidelines for the construction of Vertical Boreholes for Closed Loop Heat Pump System.
    a. Detailed plans and specifications implementing AKART for development of the deep well heat pump system, including construction protocols and contamination response procedures, shall be circulated to the Department of Ecology and to the Union Hill Water Association for review. A thirty day comment period thereon shall be provided prior to approval of any permits for drilling heat pump wells.

    b. The final plans shall require that a licensed geotechnical engineer be on-site to supervise well drilling activity.

13. Prior to issuance of the building permit, the District shall submit a lighting plan to show all the on-site exterior lighting for review and approval by DDES. All the interior lighting shall be designed to focus downward on the interior space to avoid any glare impacts on neighboring residences or onto any street right-of-way. No lighting for the play fields are allowed.

14. Prior to issuance of a clearing/grading permit, the District shall submit an archaeological survey to the Office of Cultural Resources for their review and approval.

ORDERED this 28th day of December, 2000.

_____
Stafford L. Smith
King County Hearing Examiner

TRANSMITTED this 28th day of December, 2000, to the following parties and interested persons:

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Curt Horner
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MS FIC-PH-0702

Ken Johnson
Dept of Natural Resouces
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MS KSC-NR-0600

Mark Mitchell
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Current Planning
MS OAK-DE-0100

Jon Pederson
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Sherie Sabour
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Current Planning
MS OAK-DE-0100

Pursuant to Chapter 20.24, King County Code, the King County Council has directed that the Examiner make the final decision on behalf of the County regarding conditional use permit appeals. The Examiner's decision shall be final and conclusive unless proceedings for review of the decision are properly commenced in Superior Court within twenty-one (21) days of issuance of the Examiner's decision. (The Land Use Petition Act defines the date on which a land use decision is issued by the Hearing Examiner as three days after a written decision is mailed.)

MINUTES OF THE DECEMBER 6, 2000 PUBLIC HEARING ON DEPARTMENT OF DEVELOPMENT AND ENVIRONMENTAL SERVICES FILE NO. L99CU313 – LAKE WASHINGTON SCHOOL DISTRICT #414:

Stafford L. Smith was the Hearing Examiner in this matter. Participating in the hearing and representing the Department was Sherie Sabour. Participating in the hearing and representing the Applicant was Attorney James Fitzgerald. Participating in the hearing and representing the Appellant was Brian McArthur and Marianne Spencer. Other participants in this hearing were Richard Harbert, Steven Cole, Dan Douglas, Vernon Enns, Pete Lymberis, Dean White, Marc McCalmon, Jim Barbarinas, David Andrews, Colin Jones and Ken Johnson.

The following exhibits were offered and entered into the record:

Exhibit No. 1 DDES File No. L99CU313
Exhibit No. 2 DDES CUP Report and Decision, dated July 25, 2000
Exhibit No. 3 Application, dated October 25, 1999
Exhibit No. 4 Environmental Checklist, dated July 22, 2000
Exhibit No. 5A Mitigated Determination of Non-significance, dated July 23, 1998
Exhibit No. 5B Wetland Reconnaissance Study Results, dated November 4, 1998, prepared by the Watershed Company.
Exhibit No. 5C Preliminary Geotechnical Report, dated July 29, 1998, prepared by AGRA Earth & Environmental, Inc.
Exhibit No. 5D Traffic Impact Analysis, dated July 6, 1999, prepared by the Transpo Group
Exhibit No. 5E Level I Downstream Analysis/Core and Special Requirement Discussion, dated July 8, 1999, prepared by Coughlin Porter Lundeen
Exhibit No. 5F Wildlife Habitat Study, dated June 1999, prepared by AGRA Earth & Environmental, Inc.
Exhibit No. 5G Water Supply Evaluation, dated July 22, 1999, prepared by AGRA Earth & Environmental, Inc.
Exhibit No. 6 Revised Site Plan, dated February 14, 2000

Exhibit No. 7	Assessors Maps SE 16-25-6, SW 15-25-6, NE 21-25-6 and NW 22-25-6
Exhibit No. 8	Architectural Site Plan/Composite Plan (4 pages), dated September 15, 2000
Exhibit No. 9	WSDOE Implementation Guidelines for Groundwater Quality Standards
Exhibit No. 10	Evaluation of Proposed Geothermal Heat Pump System for Planned Junior High School Adjacent to Alcott Elementary School, dated November 8, 2000, prepared by Richard Harbert for the Board of Trustees, Union Hill Water District Association
Exhibit No. 11	CARR Report map excerpt, dated February 5, 1992
Exhibit No. 12	AGI Report, dated May, 1998
Exhibit No. 13	Limited Hydrogeological Report No. 2, dated September 10, 1999, prepared by AGRA Earth and Environmental, Inc.
Exhibit No. 14	Letter/Report to Lake Washington School District, regarding Site 73, dated July 22, 1999, prepared by AGRA.
Exhibit No. 15	E-mail communication between Sherie Sabour and Ken Johnson, dated February 24, 2000
Exhibit No. 16	E-mail communication between Sherie Sabour and Ken Johnson, dated July 19, 2000
Exhibit No. 17	Letter to Sherie Sabour from Jon Pederson regarding L99CU313 and L00CG033, dated February 25, 2000
Exhibit No. 18	Opinion letter of Marc McCalmon
Exhibit No. 19	Letter from Roy Bingman to Steve Cole, dated November 24, 1999, pertaining to deep well heating/cooling system
Exhibit No. 20	Letter from Roy Bingman to Sherie Sabour, dated February 10, 2000, pertaining to deep well heating/cooling system
Exhibit No. 21	Letter from Roy Bingman to Sherie Sabour, dated February 15, 2000, pertaining to well site
Exhibit No. 22	Letter from Roy Bingman to Robert James, dated March 28, 2000, pertaining to Well No. 2
Exhibit No. 23	Letter from Robert James to Roy Bingman, dated March 29, 1998, pertaining to Well No. 2
Exhibit No. 24	E-mail communication between Jeff Bunnell and Sherie Sabour, dated March 29, 2000
Exhibit No. 25	DOE document pertaining to deep well heating pump systems piercing aquifers

The following exhibit was offered and entered administratively on December 11, 2000:

Exhibit No. 26	Written supplemental testimony and recommendations from CARSS representative Brian McArthur (Appellant) to Hearing Examiner Smith, dated December 8, 2000

The following exhibit was offered and entered administratively on December 8, 2000:

Exhibit No. 27	Written recommendations from Richard Harbert, RH2 Engineering, to Hearing Examiner Smith, dated December 8, 2000

The following exhibit was offered and entered administratively on December 18, 2000:

Exhibit No. 28	Written response to Exhibit Nos. 26 and 27 from James Fitzgerald, Applicant Representative, to Hearing Examiner Smith, dated December 13, 2000